

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

26 APR 2005

Applicant's or agent's file reference C02038WO	FOR FURTHER A	FOR FURTHER ACTION  See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)		
International application No.	International filing date	day/month/year)	Priority date (day/month/year)	
P.CT/EP 03/12022	29.10.2003		30.10.2002	
International Patent Classification (IPC C09K11/00	) or both national classification	and IPC		
Applicant COVION ORGANIC SEMICON	DUCTORS GMBH et al			
This international preliminary     Authority and is transmitted to			International Preliminary Examining	
2. This REPORT consists of a t	otal of 6 sheets, including	this cover sheet.		
been amended and are (see Rule 70.16 and Se	the basis for this report arection 607 of the Administra	d/or sheets containir	ription, claims and/or drawings which have ng rectifications made before this Authority ler the PCT).	
These annexes consist of a t	otal of sheets.		•	
	-			
3. This report contains indicatio	ns relating to the following	items:		
			·	
I ⊠ Basis of the opinio	on			
			and and the development of the 1999	
III ☐ Non-establishment of opinion with regard to novelty, inventive  IV ☐ Lack of unity of invention			ep and industrial applicability	
V ⊠ Reasoned statem		vith regard to novelty	, inventive step or industrial applicability;	
VI ☐ Certain document	-	:		
=	the international application	n		
	ons on the international app			
Date of submission of the demand		Date of completion of	of this report	
25.05.2004		25.11.2004		
Name and mailing address of the intern	ational	Authorized Officer		
preliminary examining authority:  European Patent Office			the state of the s	
D-80298 Munich	500050 ammu d	Koessler, J-L	(O)	
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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/12022

i. Dasis of the repor	. Basis of the	he report	
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		<del>-</del>				
1.	the	With regard to the <b>elements</b> of the international application (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)):				
	Des	scription, Pages				
	1-3	2	as originally filed			
	Cla	ims, Numbers				
	1-2		as originally filed			
2.			lage, all the elements marked above were available or furnished to this Authority in the ternational application was filed, unless otherwise indicated under this item.			
	The	ese elements were av	railable or furnished to this Authority in the following language: , which is:			
		the language of a tra	anslation furnished for the purposes of the international search (under Rule 23.1(b)).			
		the language of pub	lication of the international application (under Rule 48.3(b)).			
		the language of a tra Rule 55.2 and/or 55.	anslation furnished for the purposes of international preliminary examination (under 3).			
3.	Wit inte	h regard to any <b>nucle</b> rnational preliminary	eotide and/or amino acid sequence disclosed in the international application, the examination was carried out on the basis of the sequence listing:			
		contained in the inte	rnational application in written form.			
		filed together with the international application in computer readable form.				
		furnished subsequently to this Authority in written form.				
		furnished subsequently to this Authority in computer readable form.				
		The statement that t in the international a	he subsequently furnished written sequence listing does not go beyond the disclosure pplication as filed has been furnished.			
		The statement that t listing has been furn	he information recorded in computer readable form is identical to the written sequence ished.			
4.	The	amendments have r	esulted in the cancellation of:			
		the description,	pages:			
		the claims,	Nos.:			
		the drawings,	sheets:			
5.		This report has been been considered to	n established as if (some of) the amendments had not been made, since they have go beyond the disclosure as filed (Rule 70.2(c)).			
		(Any replacement sh report.)	neet containing such amendments must be referred to under item 1 and annexed to this			

6. Additional observations, if necessary:

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- V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- 1. Statement

Novelty (N)

Yes: Claims

1-15, 20,23 24

No:

16-19 21 22

Inventive step (IS)

Yes: Claims

1-15 20 23 24

No:

Claims

Claims

16-19 21 22

Industrial applicability (IA)

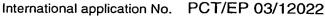
Yes: Claims

1-24

No: Claims

2. Citations and explanations

see separate sheet



## **EXAMINATION REPORT - SEPARATE SHEET**

### Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### Cited documents

The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

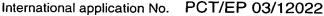
- D1: US 2001/041802 A1 (PATEL JYOTI R ET AL) 15 November 2001 (2001-11-15)
- D2: US-B1-6 423 519 (BERLIN VIVIAN ET AL) 23 July 2002 (2002-07-23)
- D3: EP-A-1 078 917 (ONO PHARMACEUTICAL CO) 28 February 2001 (2001-02-28)
- D4: WO 95 25086 A (EISAI CO LTD ; NAGASU TAKESHI (JP); HISHINUMA IEHARU (JP); YOSHIMAT) 21 September 1995 (1995-09-21)
- D5: WALLACE ET AL.: SYNTHESIS, 2001, pages 1784-1789, XP001179410
- D6: NAHM S ET AL: 'N-METHOXY-N-METHYLAMIDES AS EFFECTIVE ACYLATING AGENTS' TETRAHEDRON LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 22, no. 39, 1981, pages 3815-3818, XP002019576 ISSN: 0040-4039
- D7: WO 00 22026 A (COVION ORGANIC SEMICONDUCTORS (US).) 20 April 2000 (2000-04-20) cited in the application
- D8: DE 198 46 767 A (AVENTIS RES & TECH GMBH & CO) 20 April 2000 (2000-04-20)
- D9: WO 97 33323 A (UNIAX CORP) 12 September 1997 (1997-09-12)

#### 1 Novelty (Art. 33(2) PCT)

The present application relates to a method for the synthesis of monomers useful in the manufacture of semiconductive polymers and to compounds suitable as starting to perform said method of synthesis.

Document D1 relates to glucocorticoid receptor antagonists and describe two compounds (p. 17 column 2 ex. 5B and 5C) which fall under the scope of claims 16-19, 21, 22.

Document D2-D6 relate to compounds structurally close to those claimed of claim 16



**EXAMINATION REPORT - SEPARATE SHEET** 

but do not possess a polymerisable on each of the aromatic rings.

Document D7 concerns N-methoxy-N-methylamides and their reaction with Grignard and organolithium to produce ketones.

Documents D8-D10 relate to the preparation of fluorene derivatives and polymers thereof for the preparation of luminescent materials.

The present application does not meet the requirement of Article 33(2) PCT, because the subject-matter of claims 16-19, 21, 22 is not new.

The requirement of Article 33(2) is fulfilled concerning the subject-matter of claims 1-15, 20, 23.

#### 2 Inventive step (Art. 33(3) PCT)

Document D6 is considered to represent the closest prior art.

The problem underlying the present application is to be regarded as to provide an improved method for the production of fluorene derivatives for the preparation of semiconductive polymers.

The solution of the technical problem consists in the transformation of the ester of a biphenyl-2-carboxylic acid into an N-methoxy-N-methylamide which does not lead to over-reaction when treated with a Grignard or an organolithium reagent.

None of the cited documents nor a combination of the teaching thereof would have fairly prompted the skilled person to the method of claims 1-15 and to the N-methoxy-N-methylamides of claims 20 and 23 and the use of a N-methoxy-N-methylamide according to claim 24.

The requirements of Article 33(3) is fulfilled concerning the subject-matter of claims 1-15, 20, 23, 24.

#### 3 Industrial applicability (Art. 33(4) PCT)

**EXAMINATION REPORT - SEPARATE SHEET** 

The subject-matter of claims 1-24 is considered to be industrially applicable.

4 Clarity (Art. 6 PCT)

> The term "polymerisable group P" used/referred to in claims 12, 13, 16-19, 22-24 is vague and unclear and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claims unclear (Article 6 PCT).

> The vague and imprecise statement concerning the "spirit" of the invention in the description on page 32 line 12 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity of the claims (Article 6 PCT) when used to interpret them (see the Guidelines,

> C-III, 4.3a). This statement should therefore be amended to remove this in-

consistency.

5 Other defects of the application

> Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D6 is not mentioned in the description, nor is this

document identified therein.

The publication number WO 00/00374 mentioned on page 1 line 35 is erroneous. Likewise the reference mentioned on p. 20 l. 10 is also probably erroneous.

The applicant's attention is also drawn to the following clerical errors:

P. 4 l. 4, 10, 16, 33, p. 5 l. 3, 8, 13, p. 16 l. 9, p. 15 l 6, 12, 28, p. 16 l. 5: "CH2", the

number 2 should be written in subscript.

Claim 1: "heteroary" (definition of R and R<sup>1</sup>).

Claim 23: "An".